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FILED

IN THE UNITED STATES DISTRICT COURT

JUN 08 1994

FOR THE DISTRICT OF NEVADA

UNITED STATES OF AMERICA,
Plaintiff,

WALKER RIVER PAIUTE TRIBE,
Plaintiff-Intervenor,

vs.

WALKER RIVER IRRIGATION DISTRICT,
a corporation, et al.,
Defendants

WALKER RIVER IRRIGATION DISTRICT,
Petitioner,

STATE OF NEVADA,
Petitioner-Intervenor,

vs.

CALIFORNIA STATE WATER RESOURCES
CONTROL BOARD, et al.

Respondents.

WALKER RIVER PAIUTE TRIBE AND UNITED
STATES OF AMERICA,

Cross-Claimants,

vs.

WALKER RIVER IRRIGATION DISTRICT, et al.)

Cross-Defendants.

CLERK, U.S. DISTRICT COURT
DISTRICT OF NEVADA
BY 7/2/94 DEPUTY

In Equity C-125
Subfile C-125-B

UNITED STATES OF
AMERICA'S REPLY
MEMORANDUM TO
ITS MOTION FOR
INSTRUCTIONS AND
ORDER

ORAL ARGUMENT
REQUESTED

1 In connection with our Motion for Instructions and Order (on
2 whether groundwater users are to be joined as parties in these
3 proceedings), the United States of America replies to the
4 responses made by the Walker River Paiute Tribe, the State of
5 Nevada and the Walker River Irrigation District as follows:

6 The Tribe urges the Court to join groundwater users in these
7 proceedings. Upon reflection, the United States agrees with the
8 Tribe's position on this point. In its response brief the Tribe
9 points out that both Nevada and the Walker River Irrigation
10 District have previously argued to the Court that the waters of
11 the Walker River and its tributaries "form a single res". They
12 further argued that the "subject matter of the Tribe's and the
13 United States' claims involve how this single res is to be
14 divided among all water right claimants and thus all water right
15 claimants clearly have an interest in its subject matter." See,
16 *State of Nevada's and Walker River Irrigation District's Reply*
17 *Points and Authorities in Support of Motion to Dismiss*
18 *Counterclaims; To Require Joinder of Parties; And to Require*
19 *Service of Process in Accordance with Rule 4 of the Federal Rules*
20 *of Civil Procedure*, at 12 (Oct. 5, 1992).

21 In our *Memorandum of Points and Authorities in Support of*
22 *Motion for Instructions and Order* we noted that there are several
23 hundred groundwater users within the Walker River Basin, and that
24 it appears the groundwater, at least to a large extent, is
25 hydrologically connected to the surface water of the Walker River
26 and its tributaries. Neither Nevada nor the Walker River

1 Irrigation District in their response briefs takes issue with
2 these observations. Instead, Nevada maintains that the Walker
3 River Decree only involves the users of surface waters and that
4 subsequent proceedings in this case also involve only the users
5 of surface water of the Walker River and its tributaries. Nevada
6 also points out that "even in situations in which groundwater
7 rights provide a supplemental source to surface water rights, the
8 State Engineer administers the groundwater sources independently
9 of the surface water source." *State of Nevada's Response to*
10 *Motion for Instructions and Order*, at 2 (May 24, 1994).

11 The Walker River Irrigation District asserts that the
12 Counterclaims of the Tribe and the United States "relate only to
13 surface water", and further asserts that the Court should not
14 direct the joinder of the groundwater users within the Walker
15 River Basin unless and until the United States and the Tribe
16 "amend their Counterclaims" to clearly allege that their claimed
17 rights to additional water from the Walker River are intended to
18 impact users of groundwater. *Walker River Irrigation District's*
19 *Points and Authorities in Response to United States' Motion For*
20 *Instructions and Order*, at 2 (May 24, 1994).

21 As we noted in our opening brief, it does not appear that
22 groundwater users were included, or intended to be included, in
23 the original proceedings commenced in 1924. Since the original
24 proceedings, however, groundwater use in the Walker River Basin
25 has increased dramatically. The use of groundwater in Nevada
26 alone in the Walker River Basin is extensive. In a preliminary

report by the Nevada Department of Conservation and Natural Resources, Division of Water Planning, June, 1993, the following groundwater uses are shown:

<u>Area</u>	<u>Permitted Withdrawals, acre-feet</u>		
	<u>Irrigation</u>	<u>Other</u>	<u>Total</u>
Antelope Valley	5,980	1,437	7,417
Smith Valley	57,109	1,979	59,088
Mason Valley	119,776	29,399	149,175
East Walker Area	8,266	742	9,008
TOTAL	191,131	33,557	224,688

See Attachment (Exhibit 1)

With a groundwater use of this magnitude, 224,688 acre feet per year, it is difficult to comprehend how such uses can be treated separately and independently, as urged by Nevada. Conflicting claims to the water source by surface and groundwater users ultimately would appear to be unavoidable, cf. Cappaert v. United States, 426 U.S. 128 (1976); and lead to a multiplicity of lawsuits.

Moreover, as we noted in our opening brief, the surface water of the Walker River and its tributaries appear to be hydrologically connected to the groundwater. The California Department of Water Resources, in a June, 1992, publication, Walker River Atlas, reports, at p. 43, under the heading "Groundwater Hydrology", the following:

"Surface and groundwater resources are, physically speaking, almost always interconnected to some degree and, in fact,

1 represent two aspects of a single resource." See Attachment
2 (Exhibit 2). In addition, in a December, 1980, report by the
3 United States Geological Survey, Open-File Report 80-427,
4 entitled Water Resources of the Walker River Indian Reservation,
5 West-Central Nevada, the hydrologic connection between
6 groundwater and surface water is noted in several places, e.g.,
7 pages 22 and 33. See Attachment (Exhibit 3).

8 Under these circumstances, where groundwater use in the
9 Walker River Basin appears to be extensive and hydrologically
10 connected to surface waters, it would appear that the "single
11 res", alluded to by Nevada and the Walker River Irrigation
12 District, includes surface and groundwater, and that it would be
13 impossible to determine how to divide this "single res" among all
14 water right claimants who may have an interest in the "res"
15 without joining groundwater users in these proceedings.

16 While groundwater users were not joined in 1924 when the
17 original proceedings were filed, the increased use of groundwater
18 in the Walker River Basin, since the time of the original
19 proceedings, would appear to require these users to be made
20 parties in order to determine the relative rights, inter se,
21 between all water users.

22 The Walker River Irrigation District asserts that the
23 Counterclaims filed by the Tribe and the United States relate
24 only to surface water. We do not accept this characterization of
25 the Counterclaims. While it is true that the Counterclaims set
26 forth a claim for water rights to the surface waters of the

1 Walker River and its tributaries, we further claimed a federal
2 reserved water right to use water on lands restored to the
3 Reservation in 1936. See, paras. 1 and 15, *United States'*
4 *Counterclaim*. Many of the lands restored to the Reservation in
5 1936 are not contiguous to the main stem of the Walker River.
6 Although we have not completed our field work and investigations
7 of these lands, if those investigations indicate that groundwater
8 will be necessary to fulfill the purposes of the federal
9 reservation of these lands, then the United States, and presumably
10 the Tribe, fully intend to assert rights to the groundwater
11 necessary to fulfill the purposes of the Reservation. The
12 Counterclaims on file, we believe, are sufficiently broad under
13 the "notice pleadings" requirements of the Federal Rules of Civil
14 Procedure to encompass a claim to groundwater under the federal-
15 reserved-water-rights doctrine, should further investigation and
16 field studies demonstrate a need for groundwater to fulfill the
17 purposes of the Reservation. Cf. *Winters v. United States*, 207
18 U.S. 564 (1908); *Cappaert, supra*.

19 CONCLUSION

20 For the foregoing reasons we believe the Court should order
21 service of process on groundwater users in the Walker River
22 Basin. Because of the importance of the issues involved, the
23 United States requests oral argument.


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1 DATED this 6th day of June, 1994.

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PRELIMINARY

BOB MILLER
GOVERNOR

STATE OF NEVADA

**WALKER RIVER BASIN
WATER RIGHTS MODEL**



JUNE, 1993

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

Director:
Peter G. Morros, P.E.

DIVISION OF WATER PLANNING

State Water Planner:
Everett A. Jesse, P.E.

A Board of U.S. Water Commissioners acts as watermaster, and has the duty of apportioning and distributing the waters of the Walker River system in both states, including water for storage and stored water, in accordance with all provisions of the Decree.

1.3.4 Ground Water Rights. In Nevada, ground water, as with surface water, is considered the property of the State. The Nevada State Engineer has established a duty of water to be applied to a beneficial use when issuing permits and certificates for irrigation purposes. In the Nevada portion of the Walker River Basin, this duty is 4 acre-feet per acre per season. The courts determine the quantity or duty of water to be applied to a beneficial use in the adjudication of water rights.

The most extensive groundwater development in the Walker River Basin has taken place in Smith and Mason Valleys. Portions of the ground water are used to supplement surface supplies during times of low flows. Due to increased development of groundwater, the State Engineer classified 3 of the valleys as designated basins (Smith Valley in 1960, Mason Valley in 1977, and Antelope Valley in 1978). Once designated, the State Engineer has additional authority in the administration of groundwater in the basin.

A summary of groundwater rights in the Nevada portion of the Walker River Basin is given below.

<u>Area</u>	<u>Permitted Withdrawals, acre-feet</u>		
	<u>Irrigation</u>	<u>Other</u>	<u>Total</u>
Antelope Valley	5,980	1,437	7,417
Smith Valley	57,109	1,979	59,088
Mason Valley	119,776	29,399	149,175
East Walker Area	8,266	742	9,008
Total	191,131	33,557	224,688

Source: Hydrographic Basin Summaries, 1992, Divisions of Water Planning and Water Resources.

State of California
The Resources Agency
DEPARTMENT OF WATER RESOURCES

WALKER RIVER ATLAS

June 1992

Surface and ground water resources are, physically speaking, almost always interconnected to some degree and, in fact, represent two aspects of a single resource. For purposes of water rights administration or technical studies, these two aspects are usually treated separately, but it is important to remember that this distinction is a matter of convenience and not an absolute physical difference.

Given this caveat, it can be noted that ground water provides a portion of the basin's water supply. Most municipal water supply comes from ground water. Many private wells serve individual homes in the watershed, both in the alluvial valley-fill deposits thought of as aquifers¹ in the conventional sense, and in the fracture zones in otherwise less pervious rock. Generally, such individual wells are outside the service areas of municipal water purveyors and are low-yield wells sufficient for the needs of a single dwelling.

Ground water also provides a significant irrigation supply in parts of the

¹ In simple terms, an aquifer is a subsurface soil deposit or rock formation that is permeable enough so that water can be economically withdrawn from it to serve some use. Antelope Valley is a ground water basin (i.e., an area underlain by water-bearing alluvium) where significant ground water development is possible.

Ground Water Basins in the Watershed

The chief ground water basins in each state are listed below. These basins are valleys filled with significant amounts of water-bearing sediments. Water contained in the basins may or may not be of usable quality — some of these basins have localized areas where the ground water is too mineralized to be used for most purposes under present economic conditions.

In California

Antelope Valley
Little Antelope Valley
Shinkar Valley
Bridgeport Valley
Sweetwater Flat

In Nevada

Sweetwater Flat
Antelope Valley
Smith Valley
Marion Valley
East Walker Bottomlands
Walker Lake Valley

There are various amounts of information available about the ground water resources of these basins — information such as the amount of ground water in storage, thickness of the saturated zone(s), depth to water, and the materials, rate and direction of ground water flow, etc. The most information is available for areas where ground water use is relatively widespread, such as in Smith and Marion valleys and in parts of Walker Lake Valley.

watershed, especially in Smith and Mason valleys, where some wells with relatively high yields have been developed. In the past, some sizable extractions of ground water have also been made on the Nevada side of the watershed for mining and ore processing, although these uses are now dwarfed by the agricultural extractions. Agriculture is actually a major contributor to ground water recharge throughout the watershed, in the form of seepage from canal systems and application of water in excess of crop needs. Irrigation water is a particularly important source of recharge in the eastern part of the watershed, where imported surface water supplements the limited recharge available from precipitation alone.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER RESOURCES OF THE WALKER RIVER
INDIAN RESERVATION, WEST-CENTRAL NEVADA

By Donald H. Schaefer

Open-File Report 80-427

Prepared in cooperation with the
Economic Development Administration,
U.S. Department of Commerce
(Project Number 07-6-01832)

Carson City, Nevada

December 1980

This technical-assistance study was made by the U.S. Geological Survey under contract with the Economic Development Administration. The statements, findings, conclusions, recommendations, and other data in this report are solely those of the contractor and do not necessarily reflect the views of the Economic Development Administration.

TABLE 6.--*Estimated average annual evapotranspiration by phreatophytes and discharging playas*

Type	Source of evapotranspiration	Area (acres) ¹	<u>Evapotranspiration</u>		Calculated standard deviation of estimate (acre-feet per year)
			Feet per year ²	Acre-feet per year	
<u>Schurz subarea</u>					
1	Grasses, rabbitbrush, greasewood, and some cottonwood and willow	1,800	2.0	3,600	700
2	Grasses and willows	4,070	1.5	6,100	600
3	Greasewood	10,000	.2	2,000	400
4	Discharging playa	1,500	1.8	<u>2,700</u>	300
Total (rounded)				14,000	
<u>Rawhide Flats area</u>					
3	Greasewood	3,000	0.2	600	200
4	Discharging playa	2,300	1.8	<u>4,100</u>	700
Total				4,700	

¹ Area within reservation boundary as shown on U.S. Geological Survey Walker Lake 1:250,000 quadrangle.

² Rates are from Everett and Rush (1967), except those for discharging playas, which were model-generated.

Discharge into Walker River

As was mentioned previously, the river is primarily a source of recharge to the ground-water system. Some reaches of the river, however, do gain water from the ground-water reservoir. No attempt was made to determine the amount of loss to the river, but it is probably minor and was not considered as part of the budget discussed later.

Water Levels

Because the river is hydraulically connected with the ground-water system, water levels in the immediate area of the river show little, if any, decline. Depth to water in wells near the river that was measured for the study by Everett and Rush (1967) averaged less than 40 ft and were found to be generally the same during the winter of 1977-78.

Figure 9 shows the element configuration used for the analysis of the Walker River Indian Reservation ground-water system. The geometry of the ground-water system is specified in the model through the configuration of elements. Water-bearing properties of the prototype are specified in the model by assigning transmissivity values to the elements. The model uses these transmissivity values to compute water levels that mathematically satisfy the ground-water-flow equation for the sources and sinks applied and the boundary conditions imposed.

River-Aquifer Interactions

The most important source of ground-water recharge to the Walker River Indian Reservation ground-water system is percolation from the channel of the Walker River. The river is hydraulically connected with the ground-water system, and exchanges of water occur between the two systems. The rate of exchange depends on the ground-water level adjacent to the river, the permeability of the channel bed, and the stage and width of flow in the channel.

To express mathematically the dependence on these variables, Muskat (1937, p. 350) gave an approximate relation for the seepage discharge from canals and ditches that merge with a shallow water table. By this relation the seepage discharge is approximately linear for small head differentials between the river stage and water table. Concomitantly, in the ground-water model the seepage discharge from or to a channel reach was assumed to be proportional to the head differential between the river stage and ground-water level at the midpoint of the reach and proportional to the flow width of the river. Symbolically, the seepage rate, Q_R , is given by

$$Q_R = C_R (h_R - h) W_R L$$

where C_R is a constant of proportionality, h_R is the river stage, h is the ground-water level, W_R is the flow width, and L is the reach length.

The stage and width of flow were expressed as power functions of the upstream discharge in the reach. The river stage was represented by the relation (Leopold, Wolman, and Miller, 1964, p. 215)

$$h_R = H_R + a_d Q^{b_d}$$

where H_R is the channel-bed altitude, Q is the river discharge, and a_d and b_d are numerical coefficients. The flow width was represented by the relation (Leopold, Wolman, and Miller, 1964, p. 215)

$$W_R = a_w Q^{b_w}$$

where a_w and b_w are numerical coefficients.

CERTIFICATE OF SERVICE

I hereby certify that I have this 7th day of June, 1994, served a true copy of the foregoing **UNITED STATES OF AMERICA'S REPLY MEMORANDUM TO ITS MOTION FOR INSTRUCTION AND ORDER, ORAL ARGUMENT REQUESTED**, by placing same in the U. S. mails, postage prepaid, addressed as follows:

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